Amendments to the Drawings:

The attached sheet of drawings includes changes to FIGs. 4A, 4B and 4C. This sheet, which includes FIGs. 4A, 4B and 4C, replaces the original sheet. FIGs. 4A, 4B and 4C are amended to include reference numerals to represent a first surface, or "reading surface" 10, physical data representations 9, reflective layer 9A, and back, or label, side 8.

A marked-up version of the drawings, with revisions shown in red, is included with the amended drawings. Entry of the amended drawings is respectfully requested.

Attachment: Replacement Sheet
Annotated Sheet Showing Changes

REMARKS

Prior to entry of the present Amendment, claims 1-46 were pending in the present application. Claims 12 and 32 are amended above. New claim 47 is added above. No new matter is added by the new claims and the claim amendments. Entry is respectfully requested.

The applicants note, with appreciation, that the Office Action indicates, at page 11, section 9, that claims 1-11 and 23-31 are allowed.

The drawings are objected to for reasons indicated in the Office Action. FIGs. 4A, 4B and 4C are amended to include reference numerals to the first surface, or "reading surface" 10, the physical data representations 9 and the reflective layer 9A. The Applicants note that reference numerals 9 and 10 added to FIGs. 4A, 4B and 4C match those same reference numerals for similar features illustrated in FIG. 2. It would have been well known to one skilled in the art at the time the application was filed that a reflective layer 9A, as described at page 25, lines 18-29, takes the form of a reflective coating applied to the physical data representations 9, which commonly take the form of pits and lands (see specification, page 12, lines 10-14), between the physical data representations 9 and the first surface 10. Therefore, FIGs. 4A, 4B and 4C illustrate the feature of a first layer, or "reading surface", 10, a reflective layer 9A and a data layer 9. No new matter is added by the amendments to the specification and drawings. Entry of the amendments and removal of the objections are respectfully requested.

Claims 12-22 and 32-40 stand rejected under 35 U.S.C. 102(e) as being anticipated by Lawandy, *et al.* (U.S. Patent Number 6,338,933). Claims 41-46 stand rejected under 35 U.S.C. 102(b) as being anticipated by Smith, *et al.* (U.S. Patent Number 5,815,484). Reconsideration of the rejection and allowance of claims 12-22 and 32-40 are respectfully requested.

In the present invention as claimed in amended independent claims 12 and 32, an optical medium has data structures, i.e., pits and lands, and a plurality of operational characteristics, each operational characteristic having a predefined limit. The optical medium having the data structures is modified in a modified region to have a first actual characteristic at or near a predefined limit of a first of the plurality of operational characteristics prior to a read operation and the optical medium having the data structures is modified in the modified region to have a second actual characteristic at or near a predefined limit of a second of the plurality of operational characteristics prior to a read operation.

Thus, in the invention as claimed in independent claims 12 and 32, the "optical medium" has "data structures", and the "modified region" is formed in the optical medium "having the data structures". Therefore, the modifications to the optical medium are performed on an optical medium already having the "data structures".

As stated in Amendment A dated April 5, 2007, Lawandy, *et al.* is directed to a system and method in which an optical medium is rendered unreadable following a first read, or following a fixed number of reads, of the medium. Lawandy, *et al.*, at column 6, lines 29-57, discloses the construction of data structures 23 including the pits 27 and lands 25. During the read operation, the introduction of incident laser energy causes a permanent modification of the optical characteristics of the medium that affects the readability of the underlying data structures during subsequent read operations. In one embodiment, shown and described in connection with FIGs. 3A and 3B, the optical medium is provided with a photopolymer layer 200 that expands upon the introduction of laser energy during a read of the device. Expansion of the polymer as a result of the irradiation (see deformation 210 of FIG. 3B of Lawandy, *et al.*) permanently affects the readability of the underlying data structures resident in the pits and lands 25, 27 of the medium (see Lawandy, *et al.*, column 8, lines 7-16 and column 8, lines 64-65). Polymer expansion in this manner also has a permanent effect on the surface topology of the medium, which can detrimentally affect the tracking operation during a read of the medium. (see Lawandy, *et al.*, FIG. 8 and column 9, lines 26-44). In a second

embodiment, Lawandy, *et al.* teaches the use of an oxygen-loaded photosensitzer layer 300, which, upon the incidence of laser energy during a read operation, releases oxygen that permanently oxidizes, and therefore permanently affects the reflectivity of, and therefore the readability of, the reflective data layer 22' (see Lawandy, *et al.*, FIGs. 4A and 4B, and the corresponding discussion at column 9, line 45 - column 10, line 25). In a third embodiment, Lawandy, *et al.* teaches the use of an uncured polymer layer 402B that is adjacent the reflective layer 22' (see Lawandy, *et al.*, FIG. 5A, and corresponding discussion at page 10, lines 26-53). Upon exposure to laser energy during a read operation, the polymer layer is cured and oxygen is released that permanently oxidizes, and therefore permanently affects the reflectivity of, and therefore the readability of, the reflective data layer 22' (see Lawandy, *et al.*, FIG. 5A, and corresponding discussion at page 10, lines 26-53). In this manner, Lawandy, *et al.* provides methods and systems for forming data structures and rendering a disk unreadable following a first read, or following a predetermined number of reads, of the data contained on the disk.

The Office Action refers to the data structures 23, i.e., the pits and the lands, of Lawandy, *et al.* as being the subject of modifications and refers to the length and width of the pits as "operational characteristics". However, in the present invention as claimed in independent claims 12 and 32, the modifications are made to an optical medium "having data structures" and the "optical medium having the data structures" is "modified in a modified region". In Lawandy, *et al.* the data structures, with pits of a specific length and width, are referred to in the Office Action as being the subject of a modification. According to the interpretation of the Lawandy, *et al.* approach made in the Office Action, the lengths and widths of the pits and lands of Lawandy, *et al.* are the analog of the "operational characteristics" that each have a "predefined limit" of the present invention as claimed in independent claims 12 and 32. Also, according to the Office Action, generation of the data structures in Lawandy, *et al.* is analogous to the optical medium being "modified in the modified region" as claimed in independent claims 12 and 32. Under this interpretation of Lawandy, *et al.*, it follows that in Lawandy, *et al.* there are no data structures present on the optical medium being so "modified". The

Lawandy, *et al.* data structures are not present on the media until pits and lands are formed to have a width of about 0.4 μm and a length of about 0.4-1.9 μm.

In view of the above, it is submitted that Lawandy, *et al.* fails to teach or suggest the present invention as claimed in independent claims 12 and 32. In particular, Lawandy, *et al.* fails to teach or suggest the structural limitations of an "optical medium having data structures and a plurality of operational characteristics" and the "optical medium having the data structures being modified in a modified region", as claimed in independent claims 12 and 32. Instead, in Lawandy, *et al.*, there are no such data structures present when the optical medium is "modified" in accordance with the interpretation of Lawandy, *et al.* made in the Office Action.

Accordingly, reconsideration and removal of the rejection of independent claims 12 and 32 as being anticipated by Lawandy, *et al.*, are respectfully requested. With regard to dependent claims 13-22 and 33-40, it follows that these claims should inherit the allowability of the independent claim from which they depend.

With regard to the rejection of claims 41-46, in the present invention as claimed in independent claim 41, a method of modifying an optical medium including a first layer adjacent a reflective layer adjacent a data layer includes, prior to a reading operation of the optical medium, distorting the region of the optical medium in the reflective layer adjacent the data layer of the optical medium such that a reading operation of data stored in the data layer corresponding to the distorted region is modified. The distorted region maintains its optical characteristics following irradiation of the distorted region during the reading operation.

In the present invention as claimed in independent claim 44, an optical medium having a modified optical path includes a first layer adjacent a reflective layer adjacent a data layer and a distorted region of the optical medium formed in the reflective layer adjacent the data layer of the optical medium prior to a reading operation of the medium such that a reading operation of data stored in the data layer corresponding to the

distorted region is modified. The distorted region maintains its optical characteristics following irradiation of the distorted region during the reading operation.

Smith, *et al.* discloses a metallic layer 156 is formed so that it is encoded with the information stored thereon as the plurality of data structures 157 that are readable by interrogating beam 125. A film of reactive compound 16 is superimposed over at least some of data structures 157. In FIG. 6(a) of Smith, *et al.*, interrogating beam 125 is positioned beneath a land 157 such that the beam is reflected off of metallic layer 156 as a returned beam 127 which would be recognized by a detector and correctly converted into a corresponding binary electrical signal. In FIG. 6(b) of Smith, *et al.*, after an accumulated duration of time, a region 162 of reactive compound 160, which has been exposed to a given environmental stimulus, changes its physical characteristics from an optically transparent condition to an optically opaque or darkened condition. As such, interrogating beam 125 is absorbed in region 162 and no returned beam is detected.

Smith, *et al.* fails to teach or suggest a method of modifying an optical path of an optical medium that includes "distorting the region of the optical medium in the reflective layer adjacent the data layer of the optical medium", as claimed in independent claim 41, and an optical medium having a modified optical path that includes "a distorted region of the optical medium formed in the reflective layer adjacent the data layer of the optical medium", as claimed in independent claim 44. Instead, in Smith, *et al.*, the reactive compound is distorted in region 162 of the reactive compound 160. The metallic layer 156 of Smith, *et al.* is not distorted. Therefore, Smith, *et al.* does not teach or suggest distorting the reflective layer as claimed in independent claims 41 and 44.

Accordingly, reconsideration and removal of the rejection of independent claims 41 and 44 as being anticipated by Smith, *et al.*, are respectfully requested. With regard to dependent claims 42-43 and 45-46, it follows that these claims should inherit the allowability of the independent claim from which they depend.

Closing Remarks

It is submitted that all claims are in condition for allowance, and such allowance is respectfully requested. If prosecution of the application can be expedited by a telephone conference, the Examiner is invited to call the undersigned at the number given below.

Authorization is hereby given to charge Deposit Account No. 501798 for any fees which may be due or to credit any overpayment.

Respectfully submitted,

Date: October 31, 2007

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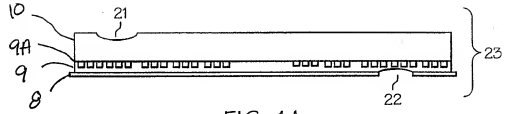

FIG. 4A

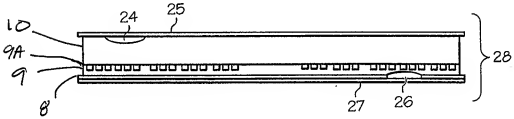

FIG. 4B

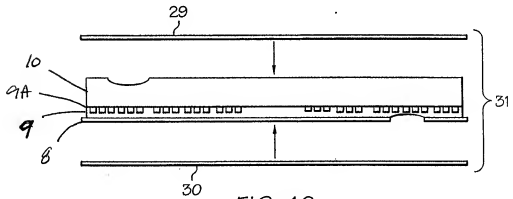

FIG. 4C